

TECHNOLOGY OPPORTUNITY SHEET

The University of Houston is actively seeking companies interested in commercializing a technique to fabricate periodic nanostructures



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DISCLOSURE ID: 2003 **A technique for the fabrication of large-area, periodic nanostructures using masked lithography**

CATEGORY: Nanotechnology and Manufacturing

DESCRIPTION

This technology relates to a method of forming lithography masks with large areas of a periodic structure. A small-area mask pattern consisting of an array of circular openings is printed in a step-and-repeat fashion to form a large area replica. Thanks to the circular shape of the pattern, image fidelity can be maintained over many generations of mask replication, even with large system blur. In the final step, the circles printed by the array of apertures can be stitched together to form the desired periodic image. The technique promises to reduce lithography costs for producing large-area, periodic-array nanostructures.

COMPETITIVE ADVANTAGE

- Allows the fabrication of large-area, periodic-array nanostructures with high fidelity and high resolution
- Offers an economical solution to the problem of pattern degradation in conventional multi-generational mask manufacturing
- Reduces the time and cost of production of large-area, periodic-array nanostructures

POTENTIAL COMMERCIAL USES

- Near-infrared mesh filter arrays
- Optical gratings

MARKET INTEREST

- Lithography market serving the semiconductor industry
- Micro- and nano-systems fabrication technology

PATENT STATUS

- [US Patent 6,372,391](#)

AVAILABILITY

- Available for exclusive or non-exclusive licensing

OFFICE OF INTELLECTUAL PROPERTY MANAGEMENT

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